DOCUMENT RESUME

ED 318 725 SP 032 310

AUTHOR Short, Edmund C.
TITLE Ten Inquiry Methods Used in Curriculum Studies.
PUB DATE 27 Mar 90
NOTE 53p.; Paper presented at the Pennsylvania State University Seminar on Curriculum Research (University Park, PA, May 27, 1990).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Critical Thinking; *Curriculum Research; *Hermeneutics; Heuristics; Holistic Approach; *Inquiry; Logical Thinking; *Research Methodology

ABSTRACT

Ten different methods of inquiry are outlined in this overview of research methodologies currently being employed in the field of curriculum studies: (1) philosophical, (2) historical, (3) scientific, (4) artistic, (5) moral, (6) religious, (7) interpretive, (8) instrumental, (9) deliberative, and (10) action oriented. Each of the 10 methods is discussed in terms of its distinctive purpose, the theories of inquiry that are applicable, the kinds of questions the method is capable of addressing, and the logic of the procedure it employs. While these analytic distinctions can be made, in actual curriculum research practice, more than one of the methods may be used together within a single study. A continuum may be noticed through the 10 methods of inquiry from the more disciplinary methods associated with the academic disciplines to the more multidisciplinary methods associated with fields of practice. Over 150 references are listed. (JD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED318725

Ten Inquiry Methods Used in Curriculum Studies

by

Edmund C. Short

Professor of Education

College of Education

The Pennsylvania State University

University Park, PA. 16802

(814) 865-6569

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

E. C. Short

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Paper presented to the Se minar on Curriculum Research, Division of Curriculum and Instruction, College of Education, The Pennsylvania State University, March 27, 1990.

SP032 310

BEST COPY AVAILABLE

Ten Inquiry Methods Used in Curriculum Studies

Edmund C. Short

Ten different methods of inquiry are outlined in this overview of research methodologies currently being employed in the field of curriculum studies. The repertoire of recognized inquiry methods in curriculum has greatly expanded over the last twenty years (Short, 1988). Conventional approaches involving scientific and instrumental methods and, to a lesser extent, historical and philosophical methods have been augmented by the emergence of artistic, interpretive, critical, deliberative, and action methods of inquiry. Formal surveys of the extent to which various kinds of inquiry approaches have been used in curriculum research are scarce (Dillon, 1985), but state-of-the-art reviews of curriculum research document this expanding use of different inquiry methods and the resultant burgeoning of the research literature in curriculum studies (Schubert, 1982; Jenkins, 1985; Short, 1988).

Conceptual and procedural knowledge of these various methods of inquiry has ordinarily been acquired by curriculum researchers on a situation-by-situation basis. Little has been published until recently within the field of curriculum studies that would systematize this knowledge and preclude the need to search the literature on methods of inquiry from educational research generally or from more fundamental disciplinary or interdisciplinary research sources (Short, 1990). While this overview can only highlight some of the conceptual and procedural knowledge necessary to the conduct of inquiry of each type, it attempts to distinguish each of them clearly and to cite key sources for further exploration. In addition, illustrative curriculum studies employing each method of inquiry are cited.

Each of the ten methods of inquiry outlined here is discussed in terms of its distinctive purpose, the theories of inquiry that are applicable, the kinds of questions the method is capable of addressing, and the logic of procedure it employs. While these analytic distinctions can be made with some confidence, it must be

recognized that in actual curriculum research practice, more than one of these methods may be used together in a single study. Obversely, within each method of inquiry, the curriculum researcher will frequently encounter variations of the general conceptual and procedural knowledge outlined here and should seek more specific guidance in understanding the applications of this general knowledge to methods of inquiry that are more narrowly defined. Finally, a continuum will be noticed through the ten methods of inquiry from the more disciplinary methods associated with the academic disciplines to the more multidisciplinary methods associated with fields of practice. Both types can legitimately be used in curriculum studies, but the latter types are essential if practical curriculum questions are to be answered about what to do, how to do it, and with what specific actions it may be enacted.

PHILOSOPHICAL INQUIRY

Philosophical inquiry has the distinctive purpose of examining the fundamental significance of all questions and answers that may arise in the course of human affairs, including those associated with doing, thinking, experiencing, knowing, valuing, relating, etc. Consequently, philosophical inquiry has developed around the most comprehensive array of questions imaginable. No other method of inquiry is capable of addressing such a wide range of matters as is philosophical inquiry. Nothing is outside its purview because "fundamental significance" is a question that can be asked about anything and everything.

Within philosophy as an academic discipline classic domains of inquiry have developed around certain classes of questions related to knowledge (epistemology), to reality (metaphysics), to beauty (aesthetics), to morality (ethics), to thinking and reasoning (logic), to value (axiology), to being or existence (ontology), to the natural universe (cosmology), and to inquiry in its multiplicity of forms (philosophy of science, philosophy of art, philosophy of history, philosophy of language, philosophy

of psychology, philosophy of mathematics, philosophy of religion, social and political philosophy, etc.)

Questions of the kind addressed in these classic domains of philosophical inquiry may also be asked in practical affairs as well as in these philosophical domains. If there are matters of fundamental significance in these practical fields that are not directly concerned with logic, aesthetics, axiology, epistemology, etc, (and there are many such matters), then philosophical inquiry may still be utilized. It is in these instances that we need to be more aware of the unique nature of philosophical inquiry which is employed in all these classic domains but which may also be employed outside them on other questions concerned with fundamental significance.

Essentially, philosophical forms of inquiry are dialectic in character rather than algorithmic. That is, they do not follow set rules or procedures; they follow a process of conceptual examination in which questions are raised, answers are posed, implications of the answers are recognized, the reasonableness of the answers are questioned and/or accepted and perhaps new questions and answers are tried out again and again. The philosophical concern with fundamental significance, while being a high priority concern in practical affairs, may remain an open matter not satisfactorily answered by philosophical inquiry because of the great difficulty of settling such questions once and for all.

The basic intellectual processes involved in this dialectic method of inquiry are those of analysis, synthesis, and criticism (Kneller, 1964, pp. 1-3; Phenix, 1964, pp. 253-264). These, or some combination of these, are at the heart of all philosophical inquiry. There is no mystery about what is involved in doing analysis, synthesis, or criticism. Everyone recognizes these intellectual processes and their differences when a little reflection is given to them. Analysis refers to the process of dividing complex wholes into constituent elements. Synthesis refers to arranging

elements into more complex wholes. Criticism refers to examining the reasons given for certain assertions, finding flaws in the arguments, and repairing them or revising the assertions.

While use of these intellectual processes in philosophical inquiry is generally within the competence of most able thinkers and can be carried out and understood in ordinary language (the more technical language of other forms of inquiry may be less accessible to the untrained inquirer), still the layman in philosophical inquiry may find it necessary to defer to the expert in order for highly competent philosophical inquiry to be achieved. High quality conduct of the various forms of philosophical inquiry, as with any other kind of inquiry, rests upon gaining experience in conducting inquiry and also upon mastering authoritative codifications of various inquiry theories/logic-of-procedures and knowing when each is appropriate. Seldom is the layman quite as well informed as the expert on thee matters.

Curriculum studies using philosophical inquiry are numerous. Analytic studies have examined the concept of curriculum (Daniels and Coombs, 1982; Johnson, 1967), curriculum design (Johnson, 1969), curriculum objectives (Broudy, 1970), curriculum planning (Gay, 1980; Posner, 1988), and sequencing of content (Posner and Strike, 1976), and others. Synthetic studies include, for instance, models of humanistic curriculums (Macdonald, Wolfson, and Zaret, 1973; Macdonald, 1986), curriculum theories (Macdonald, 1977; Reid, 1979; Ubbelohde, 1977). Critical studies have addressed curriculum objectives (Stenhouse, 1975; Wise, 1976), curriculum reform (Popkewicz, et al., 1986), and the hidden curriculum (Gordon, 1982; Martin,1976).

HISTORICAL INQUIRY

Historical inquiry has the distinctive purpose of ascertaining and explaining human actions and events that have occurred in the past. Several classes of historical questions exist and, consequently, there are several domains of historical

inquiry that have gained academic status. Among these are personal, intellectual, biographical history; history of the various academic disciplines; national, regional, or local history; social, economic, and political history; military history; history of groups such as labor, professional, or ethnic; and institutional history. There is also history that focuses on a mixture of events from two or more of these different domains of history. In all instances, the historian tries to discover what actually happened at some time in the past from the evidence of events that remains accessible to us in the present time. A convincing story about past events is what the historian constructs, often from limited materials.

While the logic of procedure is relatively standard in historiography, (Commager, 1965; Phenix, 1964, pp. 235-243), thus suggesting a singular theory of historical inquiry, as a matter of fact several different theories of inquiry exist in history. Historians are obliged to state which of these they have adopted and followed in doing their inquiry. In general, elements in the process of historical inquiry include the search for evidence, the attempt to verify facts, inference from the facts, imaginative reconstruction of events, hypothesizing and selecting defensible explanations, and interpreting the conclusions (pattern-making) appropriately and objectively within the theory of inquiry adopted (Barzun and Graff, 1985; Collingwood, 1956; Meyerhoff, 1959).

Expertise in historical inquiry, like expertise in philosophical inquiry, is accessible to those who master and adhere to the logic of historical research, but an additional element of craft is required in presenting the results of this inquiry. Mere logical reasoning and expression will not suffice as they do in philosophical inquiry; history takes the form of a story and all the techniques involved in telling a compelling story are required in writing history.

Historical inquiry specifically addressing curriculum topics has expanded in recent years. Book-length studies (Franklin, 1986; Kliebard, 1986; Tomkins, 1986) and

collections of studies (Davis, 1976; Goodson, 1988; Popkewitz, 1987) have been produced in addition to individual studies reported in journals and book chapters (Burlingame, 1982; Franklin, 1982; Huber, 1981; Kliebard, 1982; Kliebard, 1988; Tanner and Tanner, 1987).

SCIENTIFIC INQUIRY

Scientific inquiry has the distinct purpose of discovering the general laws, principles, or regularities inherent in a set of like phenomena. It is concerned with matters of empirical fact. In both the natural and social sciences questions aimed at making such discoveries with respect to some set of like phenomena have historically generated several well-known domains and subdomains of scientific inquiry--physics, chemistry, geology, biology, psychology, political science, sociology, anthropology, geography, etc. Because the scope and diversity of natural and social phenomena to which scientific questions can be put are so great, and because the logic of scientific inquiry has become so well developed and widely used, the answers to scientific questions constitute quite a large body of knowledge in most of the domains of scientific inquiry. Still, new questions and new domains are constantly being generated. The answers that are sought in scientific inquiry provide descriptions, explanations, and conditions under which regularities hold for what exists or occurs in the empirical world (Phenix, 1964, pp. 93-137).

Scientific inquiry into empirical phenomena within curriculum is largely conducted by applying the same questions and the same methods of inquiry that are employed in the basic domains of the natural and social sciences, as they may be appropriate. But because the questions that are central to curriculum activity (as with any other educational or practical human activity) are not fundamentally empirical in nature (more concerned with what should be and what to do than what is), the role of scientific inquiry in curriculum is rather limited.

Within the various empirical sciences a number of theories of scientific inquiry have developed. In general terms, however, the logic of scientific inquiry follows a

fairly standard procedure (Campbell, 1952; Homans, 1967; Kaplan, 1964; Scheffler, 1963; Toulmin, 1960). Seven steps in this procedure can generally be identified.

> First, the discovery by analysis of the basic theoretical root of the problem; second, the selection of the simplest phenomenon exhibiting the factors involved in the difficulty; third, the inductive observation of these relevant factors; fourth, the projection of relevant hypotheses suggested by these relevant facts; fifth, the deduction of logical consequences from each hypothesis, thus permitting it to be put to an experimental test; sixth, the clarification of the initial problem in light of the verified hypothesis; and seventh, the generalization of one's solution by means of a pursuit of the logical implications of the new concepts and theory with respect to other subject matter and applications (Northrop, 1959, p. 28).

These procedural steps take somewhat different specific form in each of the domains of scientific inquiry. The different phenomena of physics and of anthropology, for example, require somewhat different forms of identification, classification, concept labeling and structuring, hypothesis generation and testing, explanation, and generalization. Whatever the phenomena, the questions, and the procedures of particular domains of scientific inquiry, all seek to describe, explain, predict, and establish the range of applicability of those regularities they discover.

Acceptable answers to scientific questions are not only determined by the relevant facts and generalizations conceived to account for them but also by their congruence with other relevant evidence subsumed under other related theories, laws, or principles. It is for this reason that answers to some scientific questions are tentative in nature and often raise new puzzles and questions for further inquiry. If all empirical phenomena were completely intelligible to us as a result of scientific inquiry, all scientific inquiry would soon cease. As some things become clearer, others are made problematic, and thus scientific inquiry continues to be necessary.

The logic of scientific inquiry, together with all its modern high-powered tools for measurement and data-gathering, for computer-aided statistical analysis and

inference, and for drawing logical implications beyond the evidence given, makes scientific inquiry one of the most complex forms of inquiry at our disposal. It is consequently subject to frequent error in its execution. Previous work needs to be repeated, reconfirmed or rejected, and used as a basis for further inquiry. The system of scientific inquiry in each domain is constituted as a self-corrective system. There is no such thing as isolated scientific inquiry, and erroneous conclusions seldom persist for long.

Scientific studies in curriculum may be psychological in character (Anderson, et al, 1969), sociological, (Kimpton, 1985), political (Apple, 1988; Floden, et al., 1981), ethnographic (Deyhle, 1983; McNeil, 1981; Schmidt, et al, 1987), research synetheses (Walker, 1976), or surveys (Goodlad, 1984; Martin, et al, 1986-87).

ARTISTIC INQUIRY

Artistic inquiry has the distinctive purpose of making intelligible subjective human feeling articulated in the perceptual, aesthetic, and formal qualities of a particular phenomenon or created work. These qualities are experienced as attributes of the phenomenon taken as a whole (Dewey, 1938, pp. 214-244). They are experienced visually, tactilely, auditorily, olfactorily, gustatorily, kinesthetically, or emotionally. They cannot be conceived, understood, or expressed in ordinary rational discourse. Their ineffability can only be experienced, known, or expressed symbolically through representational forms such as, for instance, a painting, a musical performance, or a poem. Their discernment is directly through the senses and is not determined by rational understanding.

Artistic forms have the capacity to articulate human feelings such as beauty or ugliness, exultation or sadness, sincerity or deceitfulness, love or fear, pleasure or pain through such qualities as rhythm, symmetry, color, texture, unity, imagination, composition, tonality, etc. Subjective emotions that are articulated through immediate, perceptual, and non-discursive forms presented to the senses are

thus made objective and accessible to human understanding. These expressive artistic forms are able to abstract and symbolize subjective reality so that it becomes intelligible to the rational mind. This is possible because subjective experience has a structure that the artistic form articulates symbolically for our discernment (Langer, 1957, p. 7).

Various media--written, acted, sculpted, painted, danced, played, sung, and almost any other natural or created medium--may be the occasion for discerning the artistic qualities of expressive forms and making their felt symbols intelligible. A particular work of art or artistic phenomenon articulates objective answers to artistic inquiries about subjective human feeling, just as scientific inquiries yield objective knowledge about phenomena that are general and alike. Neither personal preference nor opinion is admitted into objective inquiry in either the arts or the sciences. Both seek public intelligibility, science through the logic of literal systematic discourse and the arts through the logic of presented form (Phenix, 1964, pp. 141-144; Santayana, 1955, pp. 14-52).

Artistic inquiry is conventionally divided into a number of familiar domains that correspond, interestingly, to the kind of media involved rather than to the kind of substantive questions asked, as is characteristic of the domains of inquiry in science, history, and philosophy. Poetry, drama, narrative fiction, music, dance, sculpture, painting, film, architecture, and many more, including several fields of applied and practical arts, are among the major domains of artistic inquiry.

Similar questions can be asked and answered in more than one domain. For instance, "what is it like emotionally to experience the death of a loved one?" can be dealt with via music, painting, dance, drama, etc. While any one medium may articulate somewhat different answers to the same question, it is not the case that only certain questions are reserved to particular domains of artistic inquiry. Still, the unique ways of arranging and presenting form in a particular medium make it

possible for certain questions to be answered in some domains and not in others. They all, however, share in general terms the same logic of procedure characteristic of all artistic forms of inquiry (Dewey, 1938, pp. 1987-244; Langer, 1957, pp. 75-89).

Artistic inquiry, like almost all forms of inquiry, begins in data perceived by the senses. Yet, unlike the logic of procedure in scientific inquiry, for instance, the logic of artistic inquiry does not call for abstracting general laws or theoretical regularities from the data but for the immediate experiencing of the phenomenon itself as a whole. This requires shifting the mode of cognition from analytic and synthetic modes to receptive and expressive modes (Soltis, 1966; Eisner, 1982). One attends to a different aspect of the phenomenon, to its formal qualitative dimensions, rather than to its substantive dimensions (Eisner, 1985a). In artistic inquiry, the senses take in an impression of a particular whole phenomenon, whereas in scientific inquiry multiple like-phenomena are examined for conceptual categories and relationships common to all of them.

The logic of procedure in artistic inquiry is an intuitive logic, not a propositional logic. It is the reverse of the procedure used by the artist in creating the expressive form. The artist proceeds from the human feeling known through sensory experience to the fully constructed organic unity of an expressive form. The inquirer proceeds from the form to the feeling. The initial step is to focus attention on the appearance of the form itself, disregarding its material and logical associations, and to perceive its whole pattern at once. Second, we must allow the senses to take in this organic expression of form, recognize its formal properties, qualities, and their relationships, and contemplate their significance. Next, from this experience of the total perceived form, this illusion of feeling, we conceive or imagine the actual subjective feeling it expresses as intuited in one's own sentient experience. Finally, we register in memory this affective knowledge, insight, or understood feeling which is now available for reflection or possible subsequent re-expression through appropriate media (Langer, 1957, pp. 176-180).

This logic of procedure in artistic inquiry is generally referred to as logical intuition. It is a process of abstraction and exemplification, but of feelings and sensory experience, not of categories of thought. It is a public, disciplined form of inquiry capable of being mastered by anyone who wishes to acquire the necessary education of the emotions and the attendant intuitive logic. Langer claims that "intuition is the fundamental intellectual activity which produces logical and semantical understanding" (Langer, 1957, p. 66) as well as artistic understanding (Arnheim, 1985). This suggests that those who have not mastered the canons of reasoned thought may find that logical intuition, a form of inquiry open to ordinary sensory experience, is a first step toward knowledge generated through reasoned forms of inquiry.

Eisner (1985b) and a number of his students (Barone, 1987; Donmoyer, 1980; McCutcheon, 1979; Vallance, 1978), have demonstratged the use of artistic inquiry as curriculum criticism. Autobiography (Grumet, 1980; Pinar, 1981), literary criticism (Willis, 1975), theater (Grumet, 1978; Oram, 1978), and the visual arts (Padgham, 1988) have also formed the basis for artistic inquiry in curriculum.

MORAL INQUIRY

Moral inquiry has the distinctive purpose of formulating and justifying right actions to be taken by human beings. Knowledge of right actions, either personal or corporate, is knowledge of what ought to be done situationally, that is, at a given time and under given circumstances. Moral knowledge is objective knowledge in the sense that, all things considered, the situation compels only those actions that are determined to be right; all reasonable persons attempting to make a determination of right actions in the same situation would make the same determination. Whether a person or a corporate body takes action in accord with this knowledge of right action, once it is determined, is not a matter of inquiry or knowledge but a matter of volition (assuming they are free to do so); often we know what ought to be done but do not act to do it.

Moral knowledge is universal knowledge and is not to be determined with reference to the subjective desires of any one person in the situation. The requirement that all persons and all pertinent knowledge bearing on the situation be considered means that moral knowledge results from synthesizing and weighing all knowledge--factual, affective, intentional, and instrumental--in order that potential right actions may be formulated and tested. Various precedents exist in some realms of action, some highly codified, some less so. Some ethical theories exist in terms of which judgment of right actions may be made. But in most instances, potential actions that might be taken and their possible consequences will need to be deliberated in light of the well-being of individuals and of the common good (even this may have to be deliberated) (Nowell-Smith, 1954, pp. 11-35; Phenix, 1961; Phenix, 1964, pp. 215-232).

Moral inquiry is conducted in a wide range of domains involving personal, social, and motivational relationships, such as sex and family relations; civic, political, and cultural relations; vocational relations; economic relations; education; government; international affairs; environmental resources; communications and the arts; leisure and health; etc. Inquiry into moral questions in any of these domains is never ending. Circumstances change; old answers will probably not cover new situations; even precedents and ethical principles may have to be rethought. Much formal inquiry on moral questions leads to the assertion of guidelines for right action rather than to specific prescriptions for action. Informal inquiry by individuals necessarily is directed toward determining those specific actions that need to be taken in concrete situations. Without benefit of moral knowledge arrived at through formal inquiry, the difficulty of doing the necessary informal inquiry day-by-day and of making wise choices among possible courses of action would be very great indeed. Circumstances often require action before we have had time to think the matter through completely and decide the best action to take. That is why the

results of formal inquiry need to be presented to us in advance of the times requiring action in so far as that is possible. And that is why moral knowledge resulting from formal inquiry is most useful to us when it is presented in the form of guidelines that are applicable under certain kinds of circumstances and are accompanied by the reasons, assumptions, and ideals with which they are consistent. We are enabled in this way to tell whether the moral knowledge offered is applicable in the current situation.

There are several schools of thought on how moral inquiry should be conducted. Different theories of moral inquiry are to be expected in a world where the criteria for obtaining perfect knowledge remain contested. Nevertheless, most approaches to inquiry involve the following well established steps: 1) state in precise terms the dilemma to be addressed (as to what action is right to take); 2) gather factual and normative evidence to confirm or refute this definition of the dilemma; 3) revise the statement if necessary to reflect the actual situation; 4) identify the moral ideal of right action with which the choice of specific action must conform (duty, justice, love, harmony, happiness, purpose, etc., or a combination of these); 4) generate statements of alternative actions that could conceivably address the stated dilemma as well as conform to the identified moral ideal (these may be drawn from appropriate precedents in moral knowledge, codes of ethics, or other relevant sources, or, if necessary de novo statements may be generated); 5) project the consequences that will result from taking each of these actions; 6) construct arguments defending or refuting each of these actions as right in light of their consequences and the identified moral ideal; 7) deliberate upon the merits of each action and its argument in relation to the others; and 8) determine the most reasonable action (all things considered) and state it in the form of a moral principle or guideline along with its justification (Toulmin, 1960; Vickers, 1965).

Moral inquiry in fields of practical activities such as education or curriculum is inevitable because the key decisions in such fields are about what actions ought to

be taken. When deliberative and action forms of curriculum inquiry are discussed later, the place of moral inquiry will be seen as quite central to inquiry in this practical field of activity (Reid, 1978). Among the useful studies in curriculum that have employed moral inquiry are those by Apple and Beyer (1988), Beyer and Wood (1986), Green (1985), Hayes (1977), Macdonald (1987), Starrett (1989), and Tom (1986).

RELIGIOUS INQUIRY

Religious inquiry has the distinctive purpose of comprehending any and all realities in light of Ultimate Reality. Propositional knowledge of fundamental philosophical significance, of physical or social realities, and of historical actions and events, as well as intuitive knowledge of subjectively felt realities, moral knowledge of right human action, and interdisciplinary or transdisciplinary knowledge are all limited knowledge. That is, they do not exhaust, even potentially, the realm of what we would like to know. Aspects of human experience that lie beyond the grasp of these forms of inquiry suggest that another form of inquiry is required if we are to come to know reality in its most comprehensive and definitive state. Certain questions are unanswerable by means of the array of logics articulated for the various forms of inquiry described in this article. These questions involve issues of ultimacy and are the province of religious inquiry.

Phenix has pointed out that ultimacy "is a general designation for such ideas as infinitude, absoluteness, the unlimited, transcendence, perfection, completeness, all-inclusiveness, the supreme, and many others. It stands in contrast to concepts of finitude, the relative, limitation, partiality, and the like" (Phenix, 164, p. 244). Understanding things from the standpoint of the Ultimate Whole is the goal of religious inquiry.

Because this realm of understanding has remained quite mysterious throughout the course of human history and because it attempts to provide perspective from the standpoint of the Whole by means of illumination or revelation rather than by finite

forms of inquiry, religious inquiry has become identified with various theories of inquiry that are generally designated by the term faith. Each theory or faith has given rise to institutional forms of religious ritual and practice which enable people to acquire understanding of their experience of ultimacy through particular logics of procedure. All the rational, intuitive, and transcendent powers of human beings seem to be involved in the quest for religious knowledge, and the corporate action of religious rituals seems to be necessary in many cases for the perspective of the Whole to become clear. In these ways, we focus attention on the whole, on the Ultimate Reality, on Being, on the Divine, on the Holy One, on God, to use personified names given in various theories of religious inquiry for that Reality from which all other realities are derived and from which their place, significance, relationship, and finitude are to be understood (Otto, 1958; Phenix, 1964, pp. 244-252). The various faiths or theories of inquiry associated with religious inquiry include religions great and small: Christianity, Judaism, Islam, Buddhism, Hinduism, Taoism, Confucianism, as well as cults of various kinds and even the worship of such things as money or power or sex if these become the focus of someone's concept of the Whole (Bendall and Ferre, 1962; La B. Cherbonnier, 1958; Smith, 1958).

A question like, "How is the possibility of genetic alteration of human life-forms (a result of scientific inquiry) to be reconciled with such human ideals for right action as respect for individual freedom and dignity (a claim of moral knowledge)?" is a question for religious inquiry. Nothing short of a perspective of the Ultimate Whole can provide an answer to this question. "Is it ultimately wise to try to defeat an enemy with nuclear weapons?" is not just a military or moral question. It is a religious question because a perspective more transcendent than instrumental strategy or national victory is at stake here. Such a contemplated action would precipitate other ultimate questions such as: Could the survival of human kind be jeopardized by this action? Do the motives for wishing victory in

this instance supercede some long term purpose for humanity on earth? Even the question of whether the school curriculum should include the study of religious knowledge (or any other particular kind) is a question for religious inquiry, not just a prudential issue or merely a question of political power and its consequences. Ultimately, does such an exclusion matter in terms of a child's experience of transcendence? Of course, it does. Ultimately, education can be treated as holy and sacramental if we believe it should be. (Phenix, 1959; Whitehead, 1929, p. 26).

The logic of religious inquiry, while it deals with the mysterious and with nearly incomprehensible questions, is not a mysterious or unknowable process. It is a real world process engaged in by many competent masters. It is a synthetic act of intellect that utilizes conjunctively every known form of inquiry. The arts articulate the felt experience of the holy or transcendent; thus ritual is a participative art form. Social and natural realities are to be fully comprehended through the sciences. The analysis, synthesis, and criticism of thought of all kinds is to be gained through philosophical study. History of what people have experienced by faith and how they have thought, interpreted, and acted upon their faith-knowledge is certainly to be considered in contemporary religious inquiry. Most profoundly, ultimate meanings take root in occasions for choice and action, the focus of moral inquiry. But when all these have been taken into account, we still have to ask what it all means ultimately. Answers come through the logics of prayer and ritual, general and special revelation, and the interpretation of all our finite intelligences and inquiries with the understandings that are derived therefrom. In the end, we realize that more of the perspective of the Ultimate Whole remains to be known. We remain finite inquirers (Blackstone, 1963, pp. 125-165; Huebner, 1985).

A limited amount of religious inquiry has been done within the field of curriculum, by persons such as Foshay (1983), Huebner (1985), Phenix (1971), and Richards and Short (1981).

INTERPRETIVE INQUIRY

Interpretive inquiry has the distinctive purpose of attaining understanding of the structure of meanings given by persons to their concrete experiences and actions as evidenced in their authentic personal acts of communication. The kind of knowledge generated by interpretive inquiry is not propositional as in philosophical scientific, historical, or moral inquiry. Neither is it intuitive knowledge as in artistic inquiry nor spiritual knowledge as in religious inquiry. Rather, it is knowledge in the sense of objective understanding (Verstehen) of subjective experience. According to van Manen, interpretive inquiry seeks to provide an understanding of the ways people subjectively and culturally experience (perceive, interpret, plan, act, feel, value, construe) their social world (van Manen, 1977, p. 214).

That which is experienced is concrete, situation-specific, existential, and unique. Tomorrow whatever is experienced will be different and its inner meaning may be construed quite differently. Thus in each instance of interpretive inquiry the question must focus upon a temporal situation and the ontological reality being experienced in that situation. Even if summations are to be made over time and over several situations, they cannot be of the order of scientific generalizations; they would have to be summations in terms of a range of experiences within a given present time frame taken as a whole and incorporating the past into the present. The question is, "What does this situation mean to this person?" however the situation is defined.

Since this is the basic question (with variations) in all interpretive inquiry, the answers obtained to this key question in particular inquiries are not conventionally split into subdomains by question or even by topic as is done in many of the other forms of inquiry previously described. There are an infinite number of situations and experiences to which persons may ascribe meaning, and each interpreted

experience or action stands unique. There is generally no reason to want to accumulate answers across individual inquiries except as the persons themselves find value in retrospective reflection on them. The immediate value of interpretive knowledge is in the mutual understanding that arises from fully sharing what persons' experiences mean to them with those who have reasons to want to know this.

For this reason, interpretive inquiry is often not reported publicly. This is an unfortunate state of affairs, in this or in any other domain of inquiry. While interpretive inquiry often yields incommensurable results from one study to another by virtue of having addressed different experiences of different people at different times, and although the relevance of the understandings attained seems limited to those parties willing to share it for their mutual benefit, there still are at least three reasons why interpretive inquiry should be published. The first has to do with the requirement that inquiries should be checked and critiqued on the appropriateness of the inquiry processes employed and the validity of the knowledge claims made as a consequence of conducting the inquiry by the stipulated processes. Erroneous understandings can be asserted through interpretive inquiry just as they can be through any other form of inquiry, unless the work is subjected to critical examination and correction. Perhaps misinterpretation is even more likely to occur in this form of inquiry than in others because the processes of inquiry are less precise and more open to subjective judgment, as we shall see, than are the logics of procedure in many of the other forms of inquiry. A second reason for publishing interpretive studies is to enable novices to learn how to conduct this form of inquiry by following (interpretatively and empathetically) the processes and pitfalls of this kind of inquiry. A third reason for publishing interpretive studies lies not in their value as inquiries as such but in their instructive value for persons who wish to learn of life and how people understand and deal with their lives. It becomes a means of

obtaining vicarious experience of others' experiences and what those experiences truly meant to those persons. There is much to be said for understanding potentially common experiences we may share with other human beings. And we may find that real experiences of other human beings are more compelling than those created as artful fiction in one of the artistic disciplines.

When we say we want to understand the structure of meanings persons assign to their experiences, we recognize, first of all, that persons act mentally and emotionally upon the events and relationships that impinge upon their lives (they are not simply passive reactors to these experiences) and that these experiences have unique meanings for them in terms of a whole host of matters that make up their personal histories and values. The meaning of any single event or experience necessarily must be understood in relation to configurations of meanings that are already a part of a person's life-experiences. A researcher must therefore be very cautious not to assume that the actual meaning a person gives to particular experiences has been completely understood without thorough and prolonged investigation into that person's structure of meanings.

Bredo and Feinberg (1982) point out that there are at least three levels of meaning tied up in any particular experience--factual meanings (what does "speeding" mean in the conventions of the particular situation?); meanings of roles and relationships (does "come up for a drink" mean different things coming from a friend or from a lover?); and intersubjective meanings (what different meanings would be implied by social practices and constitutive rules of different cultures for such expressions as "economic security," "hostility," "a normal lifestyle," or "criminal behavior?"). These, and perhaps other, levels of meaning interact in any situation, and if what it means to a person is to be understood correctly, one must know a great many particulars about these levels of meaning and how they are structured by the person expressing them.

Interpretive inquiry is interdisciplinary or even transdisciplinary in character. The inquirer may use any and all forms of inquiry required to gain understanding of meanings expressed by persons--historical, empirical, religious, etc. In the last analysis, whatever these inquiries turn up must be combined to present an accurate picture of the structure of meanings being examined. Some additional specialized forms of inquiry, however, are required because of the slippery nature of language and expressive forms. (It is quite possible for a single word, phrase, or gesture to convey dissimilar meanings in different circumstances.) Among these is the discipline of hermeneutics, which in combination with one of several theories of interpretive inquiry--solipsism, transcendental phenomenology, existential phenomenology, ethnomethodology, and phenomenological symbolic interactionism--makes possible the accurate assessment of verbal or other expressions of meaning (Burrell and Morgan, 1979).

Before proceeding to describe in general terms the logic of procedure involved in hermeneutic inquiry, it is important to note that the "data" associated with interpretive forms of inquiry resides in the minds of persons and that any attempt to attain an understanding of the mind's meaning structures depends upon what persons are willing and able to externalize and express from their own subjective meanings. The problem is not that the data are subjective but that a complete and accurate picture may allude the inquirer because of the difficulty people have in conveying all that their experiences mean to them. Consequently, forms of oral and written expression utilizing language may at times need to be supplemented by forms of nonverbal expression utilizing art forms such as dance, film, or ritual if full meaning is to be externalized. Still, the inquirer has the task of interpreting these "texts," whether speech acts, written journals, interview responses, literary or dramatic works, autobiographies, physical expressions, or other personal acts of communication.

Interpretive inquiry involves the use of a form of dialogue between the subject and the inquirer over the "texts" of what is communicated. There are a number of techniques that can be employed in the descriptive phase of the inquiry to elicit communications and expand "texts," but these are not prescribed in some definitive fashion. "Texts" are created by whatever means the dialogue suggests may be desirable, and they are added to, revised, or clarified over time by the dialogical reflections conducted upon them by both parties. Depending upon the theory of inquiry being followed, more emphasis can be placed on externalizing meaning and the nature and kind of evidence ("texts") to be analyzed, clarified, and interpreted, or more emphasis can be given to the latter processes with a limited range of "texts." Whichever approach the situation dictates or the persons agree upon, the logic of hermeneutic inquiry generally requires several processes (with variations) each of which entails the use of specific technical procedures for their successful accomplishment: 1) meanings are tentatively identified in the "text" in relation to each focus of interest presented in the situation, 2) these are examined in relation to one another to supply amplified or corrected understandings of initially identified meanings, 3) the schemata or themes or structured meanings that emerge are first tacitly grasped and then tentatively conceptualized, re-expressed, and shared by the inquirer with the originator, 4) the parties probe and reflect back and forth (dialogue) on the reiterated meanings of each element and of the whole (the hermeneutic circle) until authentic meanings are intersubjectively recognized and validated, 5) a condensed synthesis of these structured meanings is asserted and documented by reference to the "texts" and exploratory arguments, 6) this understanding is articulated in language appropriate for a given audience while retaining the authentic meanings of the person's original experiences or actions.

The case where the originator of the "text" is no longer available for dialogue presents special difficulties; dialogue with the "text" itself must suffice.

Techniques of textual criticism and interpretation come into play in such circumstances. Methods of interogation and argument regarding both the meanings of the language itself and the meanings of the acts and events which the experienced language was intended to reveal are at the heart of interpretive forms of inquiry. Adequate understanding is difficult but not impossible to attain through interpretive inquiry (Argyris, Putnam, and Smith, 1985, pp. 21-35; Burrell and Morgan, 1979; Darroch and Silvers, 1982; Jennings, 1983; Palmer, 1969; Polanyi, 1963, pp. 28-39; 1964, pp. 87-95; Polkinghorne, 1983; Ricoeur, 1976).

An increasing number of researchers in the field of curriculum inquiry, and in education generally, have begun to recognize the centrality of interpretive inquiry in coming to understand key educational phenomena. What persons' educational experiences mean to them has implications for almost everything in educational practice from teaching to testing to curricular choices to attitudes to long-term benefits of schooling. Educational scholars are becoming more familiar with interpretive forms of inquiry (Bredo and Feinberg, 1982; Erickson, 1986; Firestone, 1987; van Manen, 1984). Work of this type is increasingly being attempted. More and more curriculum scholars are doing interpretive inquiry and are articulating what is involved in doing it (Aoki, 1979; Carson, 1986; Connelly and Clandinin, 1985; Huebner, 1966; Pinar, 1975; Pinar and Grumet, 1976; Schubert, 1986, pp. 169-187; van Manen, 1977; Willis, 1979).

INSTRUMENTAL INQUIRY

Instrumental inquiry has the distinctive purpose of identifying functional and efficacious means for achieving or producing desired ends. In the realm of physical phenomena this form of inquiry generates knowledge of technological processes that yield the exact same results every time they are used (Nelson, et al., 1967, p. 8; Polanyi, 1964, pp. 174-185; Schon, 1967; Ziman, 1968, pp. 24-25). Insofar as such processes, methods, or procedures can be generated by linking them to relevant

scientific knowledge, they can be designed and tested experimentally until an *appropriate set of processes* is identified that consistently and invariably produces the desired result. Once known, these processes can be relied upon to produce the desired result whenever they are used as stipulated. Witness the technological processes that are now known which are capable of producing electric lights, automobiles, space travel, computerized calculators, word processors, information retrieval systems, etc. In instances where scientific knowledge is lacking upon which to project the necessary means to achieve a particular end, scientific inquiry will need to be undertaken before instrumental inquiry can proceed.

In various realms of human activity instrumental knowledge is also quite common. However, processes and procedures for achieving desired ends that involve people's consent and action are considerably more difficult to generate than those pertaining to physical phenomena(Nadler, 1967, 1970; Sanders, 1981; Sanders and Schwab, 1981; Simon, 1969; Sternberg and Caruso, 1985). Scientific inquiry related to the human phenomena that may bear upon the task is often quite limited and frequently equivocal. That is to say, studies of the factual circumstances related to achieving a particular desired human state of affairs may not provide much predictive power because of the differences that can be expected to be associated with each attempt to achieve such a state of affairs in a particular situation.

Thus, it is likely that, in addition to recognizing the regularities that one situation shares with all others in which the same end may be sought (here scientific inquiry can discover any such regularities), interpretive inquiry will be needed in each case in order to understand what is unique about the factual situation with which one must deal in doing instrumental inquiry. In other words, the attempt to identify functional and efficacious means for achieving a desired human end in a particular situation can be misguided if it is based solely upon knowledge of the general class of situations in which the same kind of end is sought. This is quite

different from the case of the physical technologies where there is no distinction between the factual knowledge that is general to all situations and the factual knowledge that is inherent in any particular situation. All situations are scientifically alike. In human affairs, moving from means to ends entails understanding the unique features of the particular situation as well.

To put the matter differently, a process that has been identified in general terms as being able to achieve a given human (non-physical) result should be looked upon with skepticism or at least as incomplete and requiring further development and testing in specific situations. As a corollary to this assertion, we must conclude that instrumental knowledge is situation-specific in the case of human affairs. Experimental approaches to generating instrumental knowledge in human affairs are not possible because the factual knowledge base is different in every situation (even with the same end). As we shall note shortly, the role of experience and argument are much more central to the generation of instrumental processes and procedures in human affairs than is general scientific knowledge, although the utility of any general processes that are identified rests largely upon how much scientific regularity exists among situations.

All this is virtually self-evident when we look at examples of instrumental knowledge that has been generated in various fields of goal-oriented activity. To reach a fund-raising goal (of whatever amount), certain procedures have been identified which, in general, are found to be functional and efficacious, but if they are not modified in terms of the unique factual circumstances of a particular situation, the goal may fail to be achieved. In teaching a lesson on text comprehension, certain methods have been found to work, but if adaptations are not made for individual students whose factual circumstances differ, the desired end may not be achieved for all students. In planning and designing educational curricula, certain basic tasks and processes have been derived from experience and

research but rigid adherence to some general set of instrumental actions without being aware of local realities usually leads to a breakdown of the processes and the desired end not being reached.

Instrumental inquiry is even more interdisciplinary than has already been suggested. Consider the idea of a "desired end." In instrumental inquiry, the "desired end" toward which the inquiry is to be directed must be known from the beginning; otherwise, the identification of means to it is impossible. But the precise specifications of the desired end toward which instrumental inquiry is to be directed is, in itself, not an easy thing to accomplish. Many instrumental inquirers begin trying to generate means only to find that their understanding of the end toward which they are working is not clear. If their view of it is not exactly what those who want to know the means to it have in mind, the instrumental knowledge generated will be of no use.

What must be done to obtain a precise definition of the end toward which inquiry shall be directed? Here we must turn to a branch of deliberative inquiry (a form of inquiry still to be reviewed in these pages) in which such matters are examined. Of course, a catalogue of possible "ends" on which instrumental inquiry might be focused could be drawn up and work might proceed as individual inquirers arbitrarily choose to deal with selected ones. But that is not the way it really happens. The needs of real situations dictate which ends are most in need of knowledge of means for achieving them, and then the designers and developers go to work on generating such knowledge. There are certain dominant needs for instrumental knowledge in every field of human endeavor. In the field of curriculum, certain domains of instrumental inquiry have arisen out of widespread need--ones such as curriculum development strategies, procedures for curriculum design, textbook content selection processes, and many, many others. It is to practitioner-oriented studies of ends commonly considered to be in need of

functional and efficacious means for their accomplishment that instrumental inquirers must turn for precise definitions of ends upon which to devote their energies.

Perhaps the most difficult part of the work of instrumental inquiry is knowing when a "means" that has been generated is actually satisfactory or adequate to the "end" for which it is designed. Here the work turns on having specific criteria for "functional" and for "efficacious," the two key terms in the statement of purpose for instrumental forms of inquiry stated at the beginning of this section. These criteria must also be specified by (or at least be acceptable to) those outside the inquiry who will use the knowledge of means coming out of the inquiry. In fact, it has been hypothesized that multiple sets of means may be functional and efficacious for achieving a given end if they all meet the criteria in both of these standards. This would suggest that knowledge of specific means in a particular situation may be generated by practitioners themselves in each setting from the more general instrumental "means" coming from formal inquiry if there is congruence between the factual circumstances in both the general and the particular instances and identity between ends in both instances. It may even imply that the general instrumental knowledge related to a given end is really defined by the general criteria and need not be spelled out in concrete processes except as a particular situation requires it.

In summary, the logic of instrumental inquiry consists of the following general procedural steps with variations depending upon the theory of instrumental inquiry invoked: 1) adopt a well-defined end, goal, or state of affairs that someone is desirous of producing or achieving, 2) develop a set of technical criteria for determining whether proposed means (processes, methods, procedures) are functional and efficacious in producing or achieving the desired end, including levels of adequacy and acceptability on each standard, 3) generate several possible

alternative sets of means (processes, methods, procedures) based upon known factual or causal relationships, hypothesized consequences of normative beliefs, or other reasonable arguments, 4) try out or test each alternative set of means in real settings over time and observe and record the effects and consequences of enacting or operationalizing these means, 5) apply the criteria developed in step two to determine which of the alternative sets of means is technically adequate and acceptable for its intended purpose, 6) repeat step four in a variety of pertinent situations and determine, as in step five, if the most adequate and acceptable means maintains the necessary degree of functionality and efficacy, and 7) prepare statements specifying the means identified for achieving or producing the desired end together with all evidence pro and con and all arguments supporting or questioning these assertions (Hemphill, 1973; Jones, 1969; Nadler, 1967; Simon, 1969, pp. 58-83).

Examples of instrumental inquiry in curriculum may be cited in relation to the curriculum development process (Gay, 1985; Short, 1983; Skilbeck, 1982; Tamir, 1985) curriculum content selection and design (Klein, 1985; Schwab, 1978, pp. 365-383; Shavelson, 1988; Vallance, 1985), and curriculum materials (Kennedy and McDonald, 1986).

DELIBERATIVE INQUIRY

Deliberative inquiry has the distinctive purpose of <u>determining a judicious course of action for attaining a desired state of affairs in a situation where relevant value commitments conflict and an appropriate choice is not self-evident</u>. Deliberative inquiry is a function of human intentionality and action. Deliberative inquiry is not only carried out in group activities, but it is also required of individuals as they confront various dilemmas independently and must choose their own courses of action. Whether conducted by an individual or a corporate body of persons, to act involves choice; and choice involves conceiving of possible actions,

weighing them on a number of grounds, and deciding what is actually to be done. Action is impelled when value dilemmas arise. What is being done in social or institutional affairs or in one's own life is recognized as being no longer desirable or not as desirable as something else and action is needed to fulfill the newly desired value or sense of the good that has superseded the previous one. In general terms, the central question in all deliberative inquiries is, "what is to be done in view of specific shifts or differences in value commitments?" To answer such a question is no simple matter.

The context for deliberative inquiry is, therefore, human action and uncertainty over normative and axiological commitments. When decisions have to be made on what is to be done in particular circumstances in order to bring about a different state of affairs, the entire range of relevant human considerations and values have to be taken into account. Scientific inquiry can be used to discover the general factual reality of both the current and the desired state of affairs among persons affected. Interpretive inquiry can be used to obtain an understanding of what people do and do not feel and value about these situations and why. Whatever techniques and tested means derived from instrumental inquiry may be pertinent to the situation in question can also be considered. The historical, philosophical, artistic, and moral questions that relate to the dilemmas at hand will need to be inquired into as well by the appropriate forms of disciplinary inquiry. In the end, however, a special form of transdisciplinary inquiry--deliberative inquiry--has to be engaged in if all the relevant knowledge is to be brought to bear on any particular dilemma and appropriate decisions and actions are to be determined (Garver, 1984; Raup, et al, 1962; Schwab, 1978, pp. 322-364; Shulman, 1984).

The chief feature of any logic of deliberative inquiry is its reliance upon the processes of practical reasoning, that is, upon the persuasiveness of arguments in and of themselves on human value commitments, and not upon a formal system of

theoretical or "if...then..." propositions conforming to certain pre-set logical canons (Gauthier, 1963; Murphy, 1964; Raz, 1978). This distinction is difficult to grasp for many people who have become accustomed to the logic of scientific reasoning and who may, in fact, assume no other form of reasoning is possible or legitimate. Practical reasoning is very different from scientific or any other kind of reasoning. It must convince--not simply conform to logical principles--and be internally consistent. It must precipitate the modification of held beliefs, values, and normative conceptions and a person's assent thereto. Both the premises and the conclusions of practical arguments have to be normative in character. If assent can be gained to an initial normative premise, and the arguments presented can be telling and persuasive, then the normative conclusion (a decision or an action) can be given assent. A whole bank of reasons are usually required in doing practical persuasion rather than simply providing a single logical deduction from a premise to a conclusion or simply inferring inductively from specific data to a generalization.

Although deliberative inquiry follows a general pattern of procedure, the emphasis may be placed upon particular aspects depending upon the theory of deliberate inquiry adopted and the focus of interest. The sense of the good may be uppermost in some deliberative processes. In others it may be most concerned with the constraints imposed by the realities of the situation. In still others the quality and persuasiveness of the reasoning and the arguments put forward may be central. Some differences in the logic and processes of deliberate inquiry may be found as well when the types of actions being contemplated are either evaluative, prescriptive, or enactive. Also, the view taken on who shall make up the deliberative body affects the way the process is carried out (Schwab, 1983).

In general, the key processes in deliberative inquiry may be summarized as follows: 1) identify and agree upon the exact nature of the circumstances that

prompts the desire to consider a new course of action (get the relevant facts), 2) identify and agree upon exact nature of the value dilemma that lies at the heart of the unsettling circumstances (know the relevant value conflicts), 3) identify and agree upon the precise value or the overarching good which any new course of action must fulfill, 4) develop a standard and criteria of acceptability which any course of action must meet if it is to fulfill the desired value or good, 5) generate a variety of possible alternative courses of action that might be capable of meeting this standard and its criteria, 6) generate for each alternative course of action lines of reasoning that argue its case for attaining the desired good in view of the relevant facts and value conflicts present in the situation, 7) examine and compare the justifications for each alternative in terms of the standard and criteria established, 8) identify and agree upon an acceptable course of action among the alternatives, or in the event of disagreement, explore the sources of disagreement and readjudicate the differences by going through steps 1 to 7 again. This means arguing and persuading on the correct perception of the facts and value dilemmas, on the definition of the good to be employed, on specifications for an acceptable course of action, on alternative actions and their competing claims and arguments, on what counts as better reasons, and on what judgment, choice, or decision is to be made. Deliberative inquiry is terminated when, and only when, step 8 is accomplished. To the extent that the final choice is warranted by publicly presented arguments that can stand the test of reason is the choice truly a judicious one that fully exemplifies sound deliberative inquiry (Taylor, 1961; Thompson, 1955; Vickers, 1965; Wiggins, 1978).

Since all curricular activities, indeed all educational activities, are set within a context of disparate visions of what counts as good education, curricular policies and plans require decisions and actions that can only be achieved through forms of deliberative inquiry. This was conceded among curriculum scholars only as recently as the 1970's, largely through the philosophical curriculum inquiry of Joseph J.

Schwab (Reid, 1979; Schubert, 1986, pp. 287-312; Schwab, 1978, pp. 287-321; van Manen, 1977). Before that time, the predominant conceptions of curriculum decision-making were relatively simple and linear, primarily technical and deductive, more value-neutral and certain. Curriculum inquiry in that period tended, consequently, to be theoretical, single discipline-oriented, or more narrowly instrumental (Schubert, 1986, pp. 188-286). In the past few years, curriculum inquiry in all its various forms has continued to be done, but the place and importance of deliberative curriculum inquiry has been increasingly recognized (Harris, 1986; Knitter, 1985; Pereira, 1984; Reid, 1978; Roby, 1985). Knowledge yielded by deliberative curriculum inquiry has been reported in studies such as Duncan (1973), Gay (1988), Harris (1985), Iwanska (1979), Schwab (1983), and Siegel (1977).

ACTION INQUIRY

Action inquiry has a distinctive purpose of translating a deliberately determined course of action for achieving a stated result in a particular situation into a series of successfully executed actions that actually do bring about the intended result. Action inquiry is a unique form of inquiry because it aims not just at knowledge and understanding but at putting inquiry at the service of action. It functions in the arena of circumstantial contingencies where neither formally derived knowledge, convincing arguments, carefully projected plans, nor a combination of these are adequate to bring about a desired result; actions must be taken by individuals or by groups in an elusive, ever-changing environment. The question in this kind of context is: what exactly is to be done if the intended result is to be accomplished?

Most people recognize that taking action haphazardly without some reasonable basis for taking the action is unlikely to yield the intended result; some kind of inquiry within the action setting is necessary if actions are to be strategic and successful. No simple, straightforward form of inquiry exists, however, that is

suited to the requirements of action settings. A complex interdisciplinary or transdisciplinary approach is required--one that draws upon all other forms of inquiry and utilizes a special logic of inquiry that takes into account the indeterminate nature of human action contexts. In an action situation individual actors or those taking action jointly can conduct inquiries (or draw upon ones previously conducted) that yield scientific, philosophical, artistic, historical, moral, religious, interpretive, instrumental, and deliberative knowledge, as these may be relevant to the situation. If deliberative inquiry in the particular setting has provided a well-conceived plan or course of action, no doubt much of the essential inquiry in these other forms has already been done. Nonetheless, several of these forms of inquiry may need to be undertaken as well during the action phase itself in order to obtain knowledge of changing circumstances or of people's reactions to various actions taken. Coupled with these disciplinary and interdisciplinary forms of inquiry must be an additional specialized form of inquiry that makes action inquiry both unique and transdisciplinary. Before describing this unique aspect of action inquiry, we need to clarify the character and conditions of this form of inquiry.

Action inquiry takes place in a particular action setting in which the persons involved have already decided the ends toward which they are working as well as the general course of action to be taken in attaining those ends. In the midst of their action-taking, the actors become inquirers and conduct action inquiry. They are committed to taking considered actions rather than rash actions. They wish to know what steps, procedures, and processes can be taken that will transform the situation from one moment to the next over time until the intended result is achieved. They respect the givens in the situation, both human and material, and consider whatever situational knowledge and experience is relevant as they take their actions. Action inquiry is a form of reflection-in-action or praxis (Argyris, et al., 1985; Carr and Kemmis, 1985; McKernan, 1988; Schon, 1983). It is a form of tailoring and refining

a plan of action in the process of carrying it out. Alterations are made as a result of what the inquiry reveals about the consequences of actions taken at each step. Action inquiry is a form of problem-solving in which attempts at transforming one state of affairs into another (the desired) state of affairs are monitored or investigated to find out what does or does not work and why, so that subsequent attempts can be more on target. Action inquiry aims at situationally relevant process knowledge which narrows the gap between what actors wish their actions to achieve and what they actually achieve. Corey states, "Action research is one method of trying consciously to find out whether or not certain activities actually do lead to the results that were anticipated" (Corey, 1953, p. 26).

Certain conditions must prevail if action inquiry is to be done successfully in action settings. A spirit of cooperation and willingness to participate in planned action must exist among all actors. Status leaders in the situation must permit and encourage experimentation and actions based on inquiry rather than insisting on predetermined courses of action or decisions imposed by virtue of their authority status. Freedom must exist to take actions, to fail to achieve the ends sought, to find out why, and to try something else. Group work and group process skills are essential for those involved in action inquiry settings. Learning the logic of procedure and theories of inquiry associated with action inquiry is also necessary for all those involved in doing action inquiry. The actors are the inquirers, so there are no experts in conducting this form of inquiry other than the participants in the action setting themselves. These conditions for successfully doing action inquiry appear to be quite demanding. Perhaps it is for this reason that action inquiry is so seldom undertaken, even though it is a form of inquiry well suited to the requirements of a great many practice-oriented fields of activity (Argyris, et al. 1985, pp. 267-449; Corey, 1953, pp. 86-106; Schon, 1983, pp. 168-235).

It is true that there are various theories of action inquiry. Some would lean almost exclusively upon scientific or instrumental orientations, others would lean more heavily upon critical or emancipatory orientations; still others, while utilizing a more balanced interdisciplinary approach, would opt for mid-course adjustment of ends to be accomplished as well as adjustment of means to the originally determined ends; some would allow only the altering of means but not the ends (McKernan, 1988). Regardless of the theory of action inquiry adopted, there is a general logic of procedure that is involved in doing action inquiry of almost every kind. This logic of procedure may be summarized as follows: 1) generate knowledge of all aspects of the situation in which the chosen course of action is to be translated into actual actions, 2) place the proposed course of action alongside this interdisciplinary understanding of the action situation and identify the points in time and circumstance at which some kind of intermediate action can be taken enroute to bringing about the final intended result, 3) for the first of these intermediate points determine and justify a strategic action for reaching the next point identified in step 2 that takes account of the realities of the situation at these points and is consistent with and advances the general course of action being pursued, 4) execute the strategic action and simultaneously investigate the reasons for its success or failure in achieving the state of affairs envisioned for the next point, 5) if the action is unsuccessful, devise a new strategic action that better fits the realities of the situation at this point and the known reasons for the previous failure, and repeat procedure four, 6) if the action or any revised action is successful, move onto the second intermediate point and carry out procedures three, four, and five again (proceeding in the same fashion until the general course of action has been translated at all intermediate points into particular actions that are successfully executed and the intended end result for the whole course of action has been achieved or is abandoned) (Argyris, et al., 1985, pp. 225-265; Carr and Kemmis,

1985, pp. 179-213; Corey, 1953, pp. 25-45; McKernan, 1988). It should be obvious that this logic of procedure incorporates the idea of reassessing at every intermediate point of action not only what has changed in the situation but also what modifications in the planned course of action may need to be made in order to advance from that point forward toward the intended goal. This entails a unique form of inquiry characteristic of action inquiry. It is really one of combining all other relevant forms of inquiry with that of testing and evaluating the real world accomplishment of each intermediate action step before going on to the implementation of each succeeding action step. It avoids acting blindly without knowledge of the actual consequences of the actions taken. It also enhances the likelihood that action steps will succeed because they are based on the results of inquiry rather than only on conjecture. Action inquiry yields situationally relevant knowledge that indicates what to do in the situation, not just how the actions are like or not like other actions taken in similar circumstances (Boyd, 1984; Elliott, et al., 1981; Grundy, 1987; Kennedy, 1983; Kyle and McCutcheon, 1984; Nixon, 1981; Oakes, et al., 1986; Sanders and McCutcheon, 1986; Wood, 1988; Yinger, 1987).

REFERENCES

Aoki, Ted T., "Curriculum Inquiry in a New Key," Occasional Paper No. 2. (Edmonton: Department of Secondary Education, Faculty of Education, The University of Alberta, 1979).

Anderson, Gary L., Herbert J. Walberg, and Wayne W. Welch, "Curriculum Effects on the Social Climate of Learning: A New Representation of Discriminant Functions," American Educational Research Journal, 6(May, 1969), 315-328.

Apple, Michael W., "Social Crisis and Curriculum Accords," Educational Theory, 38(Spring, 1988), 191-201.

Apple, Michael W., and Landon E. Beyer, "Social Evaluation of Curriculum," in Landon E. Beyer and Michael W. Apple, eds., The Curriculum: Problems, Politics, and Possibilities (Albany: State University of New York Press, 1988), pp. 334-349.

Argyris, Chris, Robert Putnam, Diana McLain Smith, Action Sciences: Concepts, Methods, and Skills for Research and Intervention (San Francisco: Jossey-Bass, 1985).

Arnheim, Rudolf, "The Double-edged Mind: Intuition and the Intellect," in Elliot W. Eisner, ed., Learning and Teaching the Ways of Knowing, 84th Yearbook of the National Society for the Study of Education, Part II (Chicago: The University of Chicago Press, 1985), pp. 77-96.

Barone, Thomas E., "On Equality, Visibility, and the Fine Arts Program in a Black Elementary School," Curriculum Inquiry, 17(Winter, 1987), 421-446.

Barzun, Jacques, and Henry F. Graff, The Modern Researcher, 4th Ed. (San Diego: Harcout Brace Jovanovich, 1985).

Bendall, Kent, and Frederick Ferre, eds., Exploring the Logic of Faith (New York: Association Press, 1962).

Beyer, Landon E., and George H. Wood, "Critical Inquiry and Moral Action in Education," Educational Theory, 36(Winter, 1986), 1-14.

Blackstone, William T., The Problem of Religious Knowledge (Englewood Cliffs, NJ: Prentice Hall, 1963).

Boyd, Robert D., "Solving Problems of Practice in Education," Knowledge: Creation, Diffusion, Utilization, 6(September, 1984), 59-74.

Bredo, Eric, and Walter Feinberg, "The Interpretive Approach to Social and Educational Research," in their Knowledge and Values in Social and Educational Research (Philadelphia: Temple University Press, 1982), pp. 115-128.

Broudy, Harry, S., "The Philosophical Foundations of Educational Objectives," Educational Theory, 20(Winter, 1970), 3-21.

Burlingame, Martin, "The US Government and the Public School Curriculum: An Interpretation of the Post-Second World War Decades," Journal of Curriculum Studies, 14(October-December, 1982), 313-329.

Burrell, Gibson, and Gareth Morgan, "Interpretive Paradigm," in their Sociological Paradigms and Organizational Analysis: Elements of the Sociology of Corporate Life (London: Heinemann, 1979), pp. 227-259.

Campbell, Norman, What is Science? (New York: Dover, 1952).

Carr, Wilfred, and Stephen Kemmis, Becoming Critical: Knowing Through Action Research, Revised Edition (Philadelphia: The Falmer Press, 1985).

Carson, Terrance R., "Closing the Gap Between Research and Practice: Conversation as a Mode of Doing Research," Phenomenology + Pedagogy, 4(No. 2, 1986), 73-85.

Collingwood, R. G., The Idea of History (New York: Oxford University Press, 1956).

Commager, Henry Steele, The Nature and Study of History (Columbus, OH: Charles E. Merrill, 1965).

Connelly, F. Michael, and D. Jean Clandinin, "Personal Narrative Unities and the Modes of Knowing: Relevance for Teaching and Learning," in Elliot W. Eisner, ed., Learning and Teaching the Ways of Knowing, 84th Yearbook of the National Society for the Study of Education, Part II (Chicago: The University of Chicago, 1985), pp. 184-198.

Corey, Stephen M., Action Research to Improve School Practices (New York: Bureau of Publications, Teachers College, Columbia University, 1953).

Daniels, Leroi, and Jerrold Coombs, "The Concept of Curriculum," pp. 251-258 in Donald B. Cockrane and Martin Schiralli, eds., Philosophy of Education: Canadian Perspective (Don Mills, Ontario: Collier Macmillan Canada, 1982).

Darroch, Vivian, and Ronald J. Silvers, eds., Interpretive Human Studies (Washington, D.C.: University Press of America, 1982).

Davis, O.L., Jr., ed., Perspectives on Curriculum Development: 1776-1976 (Washington, D.C.: Association for Supervision and Curriculum Development, 1976).

Dewey, John, Art as Experience (New York: G. P. Putnam's Sons-Capricorn Books, 1938).

Deyhle, Donna, "Between Games and Failure: A Micro-Ethnographic Study of Navajo Students and Testing," Curriculum Inquiry, 13(Winter, 1983), 347-376.

Dillon, J. T., "The Problems/Methods/Solutions of Curriculum Inquiry," Journal of Curriculum and Supervision, 1(Fall, 1985), 18-26.

Donmoyer, Robert, "The Evaluator as Artist," Journal of Curriculum Theorizing, 2(Summer, 1980), 12-26.

Duncan, James K., "The Curriculum Director and Curriculum Change," The Educational Forum, 38(November, 1973), 51-77.

Eisner, Elliot W., "Aesthetic Modes of Knowing," in Elliot W. Eisner, ed., Learning and Teaching the Ways of Knowing, 84th Yearbook of the National Society for the Study of Education, Part II (Chicago: The University of Chicago Press, 1985), pp. 23-36. (a)

Eisner, Elliot W., "The Forms and Functions of Educational Connoisseurship and Educational Criticism," in The Educational Imagination: On the Design and Evaluation of School Programs, 2d Ed. (New York: Macmillan, 1985). (b).

Eisner, Elliot W., "The Role of the Senses in Concept Formation," in Cognition and Curriculum (New York: Longman, 1982), pp. 27-46.

Elliot, John, et al., School Accountability (London: Grant McIntyre, 1981).

Erickson, Frederick, "Qualitative Methods in Research on Teaching," in Merlin C. Wittrock, ed., Handbook of Research on Teaching, 3rd Ed. (New York: Macmillan, 1986), pp. 119-161.

Firestone, William A., "Meaning in Method: The Rhetoric of Quantitative and Qualitative Research," Educational Researcher, 16(October, 1987), 16-21.

Floden, Robert E., Andrew C. Porter, William H. Schmidt, Donald J. Freeman, and John R. Schwille, "Responses to Curriculum Pressures: A Policy Capturing Study of Teacher Decisions About Content," Journal of Educational Psychology, 73(April, 1981), 129-141.

Foshay, Arthur W., "Subject Matter Has Astonishment. Paper given at Bergamo Conference on Curriculum Theory and Classroom Practice, Dayton, Ohio, October 21, 1983.

Franklin, Barry M., Building the American Community: The School Curriculum and the Search for Social Control (Philadelphia: The Falmer Press, 1986).

Franklin, Barry M., "The Social Efficiency Movement Reconsidered: Curriculum Change in Minneapolis, 1917-1950," Curriculum Inquiry, 12(Spring, 1982), 9-33.

Garver, Eugene, "The Arts of the Practical: Variations on a Theme of Prometheus," 14(Summer, 1984), 165-182.

Gauthier, David P., Practical Reasoning (New York: Oxford University Press, 1963).

Gay, Geneva, "Conceptual Models of the Curriculum-Planning Process," pp. 120-143 in Arthur W. Foshay, ed., Considered Action for Curriculum Improvement, 1980 ASCD Yearbook (Washington, D.C.: Association for Supervision and Curriculum Development, 1980).

Gay, Geneva, "Curriculum Development," in Torsten Husen and Thomas H. Postlethwaite, eds., International Encyclopedia of Education (New York: Pergamon Press, 1985), pp. 1170-1179.

Gay, Geneva, "Designing Relevant Curricula for Diverse Learners," Education and Urban Society, 20(August, 1988), 327-340.

Goodlad, John I., A Place Called School (New York: McGraw-Hall, 1984).

Goodson, Ivor F., The Making of Curriculum: Collected Essays (Philadelphia: The Falmer Press, 1988).

Gordon, David, "The Concept of the Hidden Curriculum," Journal of Philosophy of Education, 16 (No. 2, 1982), 187-198.

Green, Thomas F., "The Formation of Conscience in an Age of Technology," American Journal of Education, 94(November, 1985), 1-32.

Grumet, Madeleine R., "Autobiography and Reconceptualization," Journal of Curriculum Theorizing, 2(Summer, 1980), 155-158.

Grumet, Madeleine R., "Curriculum as Theater: Merely Players," Curriculum Inquiry, 8(Spring, 1978), 37-84.

Grundy, Shirley, Curriculum: Product or Praxis? (Philadelphia: The Falmer Press, 1987), pp. 141-160.

Harris, Ilene B., "Communicating the Character of 'Deliberation'," Journal of Curriculum Studies, 18(No. 2, 1986), 115-132.

Harris, Ilene B., "An Exploration of the Role of Theories in Communication for Guiding Practitioners," Journal of Curriculum and Supervision, 1(Fall, 1985), 27-55.

Hayes, Helen E., "Curriculum Development as a Moral Enterprise," Curriculum Inquiry, 6(No. 3, 1977), 229-235.

Hemphill, John K., "Educational Development," in John K. Hemphill and Fred S. Rosenau, eds., Educational Development: A New Discipline for Self-Renewal (Eugene, OR: Center for the Advanced Study of Educational Administration, University of Oregon, 1973), pp. 3-15.

Homans, George C., The Nature of Social Science (New York: Harcourt, Brace & World, 1967).

Huber, Margaret Ann, "The Renewal of Curriculum Theory in the 1970s: An Historical Study," Journal of Curriculum Theorizing, 3(Winter, 1981), 14-84.

Huebner, Dwayne, "Curricular Langauge and Classroom Meanings," in James B. Macdonald and Robert S. Leeper, eds., Langauge and Meaning (Washington, D.C.: Association for Supervision and Curriculum Development, 1966), pp. 8-26.

Huebner, Dwayne, "Spirituality and Knowing," in Elliot W. Eisner, ed., Learning and Teaching the Ways of Knowing, 84th Yearbook of the National Society for the Study of Education, Part II (Chicago: The University of Chicago Press, 1985), pp. 159-173.

Iwanska, Alicja, "Praxiology and Curriculum," in John I. Goodlad and Associates, Curriculum Inquiry: The Study of Curriculum Practice (New York: McGraw-Hill, 1979), pp. 287-302.

Jenkins, David, "Curriculum Research," in Torsten Husen and T. N. Postlethwaite, eds., The International Encyclopedia of Education (London: Pergamon, 1985), pp. 1257-1263.

Jennings, Bruce, "Interpretive Social Science and Policy Analysis," in Daniel Callahan and Bruce Jennings, eds., Ethics: The Social Sciences and Policy Analysis (New York: Plenum, 1983), pp. 3-35.

Johnson, Mauritz, "Definitions and Models in Curriculum Theory," Educational Theory, 17 (April, 1967), 127-140.

Johnson, Mauritz, "On the Meaning of Curriculum Design," Curriculum Theory Network, 3 (Spring, 1969), 3-9.

Jones, Willard G., "The Nature and Process of Educational Development," in Alton E. Harri, ed., Educational Development: From Research to Practice (Greeley, CO: Rocky Mountain Educational Laboratory, 1969), pp. 16-28.

Kaplan, Abraham, The Conduct of Inquiry (San Francisco: Chandler, 1964).

Kennedy, Kerry J., and Gilbert McDonald, "Designing Curriculum Materials for Multicultural Education: Lessons from an Australian Development Project," Curriculum Inquiry, 16(Fall, 1986), 312-326.

Kennedy, Mary M., "Working Knowledge," Knowledge: Creation, Diffusion, Utilization, 5 (December, 1983), 193-211.

Kimpston, Richard D., "Curriculum Fidelity and the Implementation Tasks Employed by Teachers: A Research Study," Journal of Curriculum Studies, 17(April-June, 1985), 185-195.

Klein, M. Frances, "Curriculum Design," in Torsten Husen and Thomas H. Postlethwaite, eds., International Encyclopedia of Education (New York: Pergamon Press, 1985), pp. 1163-1170.

Kliebard, Herbert M., "Education at the Turn of the Century: A Crucible for Curriculum Change," Educational Researcher, 11(January ,1982), 16-24.

Kliebard, Herbert M., "The Liberal Arts Curriculum and Its Enemies: The Effort to Redefine General Education," pp. 29-51 in Ian Westbury and Alan C. Purves, eds., Cultural Literacy and the Idea of General Education, 87th Yearbook of the National Society for the Study of Education, Part II (Chicago: The University of Chicago Press, 1988).

Kliebard, Herbert M., The Struggle for the American Curriculum: 1893-1958 (Boston: Routledge & Kegan Paul, 1986).

Kneller, George F., Introduction to the Philosophy of Education (New York: John Wiley, 1964).

Knitter, William, "Curriculum Deliberation: Pluralism and the Practice," Journal of Curriculum Studies, 17(No. 4, 1985), 383-395.

Kyle, Diane W., and Gail McCutcheon, "Collaborative Research: Development and Issues," Journal of Curriculum Studies, 16(April-June, 1984), 173-179.

La B. Cherbonnier, E., "Idolatry," in Marvin Halverson, ed., A Handbook of Christian Theology (New York: Meridian Books, 1958), pp. 176-183.

Langer, Susanne K., Problems of Art (New York: Charles Scribner's Sons, 1957).

Macdonald, James B., "The Domain of Curriculum," Journal of Curriculum and Supervision, 1(Spring, 1986), 205-214.

Macdonald, James B., "Value Bases and Issues for Curriculm," pp. 10-21 in Alex Molnar and John A. Zahorik, eds., Curriculum Theory (Washington, D.C.: Association for Supervision and Curriculum Development, 1977).

Macdonald, James B., and David E. Purpel, "Curriculum and Planning: Visions and Metaphors," Journal of Curriculum and Supervision, 2(Winter, 1987), 178-192.

Macdonald, James B., Bernice J. Wolfson, and Esther Zaret, Reschooling Society: A Conceptual Model (Washington, D.C.: Association for Supervision and Curriculum Development, 1973).

Martin, David S., Philip S. Saif, and Linda Thiel, "Curriculum Development: Who Is Involved and How?" Educational Leadership, 44(December 1986-January 1987), 40-48.

Martin, Jane R., "What Should We Do With a Hidden Curriculum When We Find One?" Curriculum Inquiry, 6 (No. 2, 1976), 135-151.

McCutcheon, Gail, "Educational Criticism: Methods and Application," Journal of Curriculum Theorizing, 1(Summer, 1979), 5-25.

McKernan, Jim, "The Countenance of Curriculum Action Research: Traditional, Collaborative, and Emancipatory-Critical Conceptions," Journal of Curriculum and Supervision, 3(Spring, 1988), 173-200.

McNeil, Linda M., "Negotiating Classroom Knowledge: Beyond Achievement and Socialization," Journal of Curriculum Studies, 13(October-December, 1981), 313-328.

Meyerhoff, Hans, ed., The Philosophy of History in Our Time (Garden City, NY: Doubleday Anchor Books, 1959).

Murphy, Arthur Edward, The Theory of Practical Reason (La Salle, IL: Open Court, 1964).

Nadler, Gerald, "A Suggested Design Methodology," Management Science, 13(June, 1967), 3642-3655.

Nadler, Gerald, Work Design: A Systems Concept, Revised Edition (Homewood, IL: Richard D. Irwin, 1970).

Nelson, R.R., M. J. Peck, and E.D. Kalachek, Technology, Economic Growth, and Public Policy (Washington, D.C.: The Brookings Institution, 1967).

Nixon, Jon, ed., A Teacher's Guide to Action Research (London: Grant McIntyre, 1981).

Northrop, F. S. C., The Logic of the Sciences and the Humanities (Cleveland: World-Meridian Books, 1959).

Nowell-Smith, P.H., Ethics (Baltimore: Penguin Books, 1954).

Oakes, Jeannie, Sharon E. Hare, and Kenneth A. Sirotnik, "Collaborative Inquiry: A Congenial Paradigm in a Cantankerous World," Teachers College Record, 87(Summer, 1986), 545-561.

Oram, Rex, "An Action Frame of Reference as a Register for Curriculum Discourse," Journal of Curriculum Studies, 10(April-June, 1978), 135-149.

Otto, Rudolf, The Idea of the Holy (New York: Oxford University Press-Galaxy Book, 1958).

Padgham, Ronald E., "Correspondences: Contemporary Curriculum Theory and Twentieth-Century Art," in William F. Pinar, ed., Contemporary Curriculum Discources (Scottsdale, AZ: Gorsuch Scarisbrick, 1988), pp. 359-379.

Palmer, Richard E., Hermeneutics: Interpretive Theory in Schleiermacher, Dilthey, Heidegger, and Gadamer (Evanston, IL: Northwestern University Press, 1969).

Pereira, Peter, "Deliberation and the Arts of Perception," Journal of Curriculum Studies, 16(No. 4, 1984), 347-366.

Phenix, Philip H., Education and the Comon Good: A Moral Philosophy of the Curriculum (New York: Harper and Row, 1961).

Phenix, Philip H., Realms of Meaning (New York: McGraw-Hill, 1964).

Phenix, Philip H., Religious Concerns in Contemporary Education (New York: Teachers College, Bureau of Publications, 1959).

Phenix, Philip H., "Transcendence and the Curriculum," Teachers College Record, 73(December, 1971), 273-280.

Pinar, William F., "Search for a Method," in William F. Pinar, ed., Curriculum Theorizing: The Reconceptualists (Berkeley, CA: McCutchan, 1975), pp. 415-424.

Pinar, William F., " 'Whole, Bright, Deep with Understanding': Issues in Qualitative Research and Autobiographical Method," Journal of Curriculum Studies, 13(July-September, 1981), 173-188.

Pinar, William F., and Madeleine R. Grumet, Toward a Poor Curriculum (Dubuque, IA: Kendall/Hunt, 1976).

Polanyi, Michael, The Study of Man (Chicago: The University of Chicago Press, Phoenix Books, 1963).

Polanyi, Michael, Personal Knowledge (New York: Harper Torchbacks, 1964).

Polkinghorne, Donald, "Existential-Phenomenological and Hermeneutic Systems," in Methodology for Human Sciences: Systems of Inquiry. (Albany, NY: State University of New York Press, 1983), pp. 201-240.

Popkewicz, Thomas S., ed., The Formation of the School Subjects (Philadelphia: The Falmer Press, 1987).

Popkewicz, Thomas S., Allan Pitman, and Arlene Barry, "Educational Reform and Its Millenial Quality: The 1980s," Journal of Curriculum Studies, 18(July-September, 1986), 267-283.

Posner, George J., "Models of Curriculum Planning," pp. 77-97 in Landon Beyer and Michael Apple, eds., The Curriculum: Problems, Politics, and Possibilities (Albany: State University of New York Press, 1988).

Posner, George J., and Kenneth A. Strike, "A Categorization Scheme for Principles of Sequencing Content," Review of Educational Research, 46(Fall, 1976), 665-690.

Raup, R. Bruce, George E. Axtelle, Kenneth D. Benne, and B. Othanel Smith, The Improvement of Practiced Intelligence: The Central Task of Education, Revised Edition (New York: Bureau of Publications, Teachers College, Columbia University, 1962).

Raz, Joseph, ed., Practical Reasoning (New York: Oxford University Press, 1978).

Reid, William A., "Practical Reasoning and Curriculum Decisions," in Thinking About the Curriculum: The Nature and Treatment of Curriculum Problems (Boston: Routledge & Kegan Paul, 1978), pp. 41-69.

Reid, William A., "Practical Reasoning and Curriculum Theory: In Search of a New Paradigm," Curriculum Inquiry, 9(Fall, 1979), 187-207.

Richards, Robert E., and Edmund C. Short, "Curriculum Inquiry From a Religious Perspective: Two Views," Journal of Curriculum Theorizing, 3(Summer, 1981), 209-222.

Ricoeur, Paul, Interpretation Theory: Discourse and the Surplus of Meaning (Fort Worth, TX: Texas Christian University Press, 1976).

Roby, Thomas W., "Habits Impeding Deliberation," Journal of Curriculum Studies, 17(No. 1, 1985), 17-35.

Sanders, Donald P., "Educational Inquiry as Developmental Research," Educational Researcher, 10(March, 1981), 8-13.

Sanders, Donald P., and Gail McCutcheon, "The Development of Practical Theories of Teaching," Journal of Curriculum and Supervision, 2(Fall, 1986), 50-67.

Sanders, Donald P., and Marian Schwab, "Schooling and the Development of Education," The Educational Forum, 45(March 1981), 265-289.

Santayana, George, The Sense of Beauty (New York: Dover, 1955).

Scheffler, Israel, The Anatomy of Inquiry (Indianapolis: Bobbs-Merrill, 1963).

Schmidt, William H., Andrew C. Porter, Robert E. Floden, Donald J. Freeman, and John R. Schwille, "Four Patterns of Teacher Content Decision-Making," Journal of Curriculum Studies, 19(September-October, 1987), 439-455.

Schon, Donald A., The Reflective Practitioner: How Professionals Think in Action (New York: Basic Books, 1983).

Schon, Donald A., Technology and Change: The New Heraclitus (New York: Delacorte Press, 1967).

Schubert, William H., Curriculum: Perspective, Paradigm, and Possibility (New York: Macmillan, 1986).

Schubert, William H., "Curriculum Research," in Harold E. Mitzel, ed., Encyclopedia of Educational Research, 5th Ed. (New York: Macmillan, 1982), pp. 420-431.

Schwab, Joseph J., "The Practical: Arts of the Eclectic," in Ian Westbury and Neil J. Wilkof, eds., Science, Curriculum, and Liberal Education: Selected Essays by Joseph J. Schwab (Chicago: The University of Chicago Press, 1978), pp. 322-364.

Schwab, Joseph J., "The Practical: A Language for Curriculum," in Ian Westbury and Neil Wilkof, eds., Science, Curriculum, and Liberal Education: Selected Essays by Joseph J. Schwab (Chicago: The University of Chicago Press, 1978), pp. 287-321.

Schwab, Joseph J., "The Practical: Translation into Curriculum," in Ian Westbury and Neil J. Wilkof, eds., Science, Curriculum, and Liberal Education: Selected Essays by Joseph J. Schwab (Chicago: The University of Chicago Press, 1978), pp. 365-383.

Schwab, Joseph J., "The Practical 4: Something for Curriculum Professors to Do," Curriculum Inquiry, 13(Fall, 1983), 239-265.

Shavelson, Richard J., "Contributions of Educational Research to Policy and Practice: Constructing, Challenging, Changing Cognition," Educational Researcher, 17(October, 1988), 4-11; 22.

Short, Edmund C., "Curriculum Research in Retrospect," (College of Education, The Pennsylvania State University, 1988) ERIC Document No. 282 919.

Short, Edmund C., "The Forms and Uses of Alternative Curriculum Development Strategies: Policy Implications," Curriculum Inquiry, 13(Spring, 1983), 43-64.

Short, Edmund C., "Understanding Curriculum Inquiry: Its Nature, Questions, and Forms of Inquiry," in Edmund C. Short, ed., Forms of Curriculum Inquiry: Guidelines for the Conduct of Educational Research (Albany: State University of New York Press, 1990).

Shulman, Lee S., "The Practical and the Eclectic," Curriculum Inquiry, 14(Summer, 1984), 183-200.

Siegel, Judith E., "Task No. 1: Writing 'Practical' Curriculum," Educational Leadership, 34(April, 1977), 540-544.

Simon, Herbert A., The Sciences of the Artificial (Cambridge, MA: Harvard University Press, 1969).

Skilbeck, Michael, "School-based Curriculum Development," in Victor Lee and David Zeldin, eds., Planning in the Curriculum (London: Hodder and Stroughton, 1982), pp. 18-34.

Smith, Huston, The Religions of Man (New York: Harper and Row-Perennial Library, 1958).

Soltis, Jonas F., Seeing, Knowing, and Believing: A Study of the Language of Visual Perception (Reading, MA: Addison-Wesley, 1966).

Starrett, Robert J., "Knowing at the Level of Sympathy: A Curriculum Challenge," Journal of Curriculum and Supervision, 4(Spring, 1989), pp: 271-281.

Stenhouse, Laurence, "A Critique of the Objectives Model," pp. 70-83 in his An Introduction to Curriculum Research and Development (London: Heinemann, 1975).

Sternberg, Robert J., and David R. Caruso, "Practical Modes of Knowing," in Elliot W. Eisner, ed., Learning and Teaching the Ways of Knowing, 84th Yearbook of the National Society for the Study of Education, Part II (Chicago: The University of Chicago, 1985), pp. 133-158.

Tamir, Pinchas, ed., The Role of Evaluation in Curriculum Development (London: Croom Helm, 1985).

Tanner, Laurel N., and Daniel Tanner, "Environmentalism in American Pedagogy: The Legacy of Lester Ward," Teachers College Record, 88(Summer, 1987), 537-547.

Taylor, Paul W., A Normative Discourse (Englewood Cliffs, N.J.: Prentice Hall, 1961).

Thompson, J.A.K., trans., The Ethics of Aristotle (London: Penquin Books, 1955).

Tom, Alan R., "Teaching as a Moral Craft," Curriculum Inquiry, 10(Fall, 1986), 317-323.

Tomkins, George S., A Common Countenance: Stability and Change in the Canadian Curriculum (Scarborough, Ontario: Prentice-Hall Canada, 1986).

Toulmin, Sephen E., "The Logic of Moral Reasoning," in The Place of Reason in Ethics (Cambridge: Cambridge University Press, 1960), pp. 144-165.

Toulmin, Stephen, The Philosophy of Science (New York: Harper and Row, 1960).

Ubbelohde, Robert A., "A Neo-Conservative Approach in Curriculum," pp. 22-34 in Alex Molnar and John A. Zahorik, ed., Curriculum Theory (Washington, D.C.: Association for Supervision and Curriculum Development, 1977).

Vallance, Elizabeth, "Scanning Horizons and Looking at Weeds: A Critical Description of the Great Plains Experience," in George Willis, ed., Qualitative Evaluation (Berkeley, CA: McCutchan, 1978), pp. 140-160.

Vallance, Elizabeth, "Ways of Knowing and Curriculum Concepts: Implications for Curriculum Planning," in Elliot W. Eisner, Ed., Learning and Teaching the Ways of Knowing, 84th Yearbook of the National Society for the Study of Education, Part II (Chicago: The University of Chicago Press, 1985), pp. 199-217.

Van Manen, Max, "Linking Ways of Knowing with Ways of Being Practical," Curriculum Inquiry, 6(No. 3, 1977), 205-228.

Van Manen, Max, "Practicing Phenomenological Writing," Phenomenology + Pedagogy, 2(No. 1, 1984), 36-69.

Vickers, Geoffrey, The Art of Judgment (London: Chapman & Hall, 1965).

Walker, Decker F., "Toward Comprehension of Curricula Realities," pp. 268-308 in Lee S. Shulman, ed., Review of Research in Education 4: 1976 (Itasca, IL: F.E. Peacock, 1977.

Whitehead, Alfred N., The Aims of Education and Other Essays (New York: Macmillan, 1929).

Wiggins, D., "Deliberation and Practical Reason," in Joseph Raz, ed., Practical Reasoning (New York: Oxford University Press, 1978), pp. 144-152.

Willis, George H., "Curriculum Criticism and Literary Criticism," Journal of Curriculum Studies, 7(May, 1975), 3-17.

Willis, George H., "Phenomenological Methodologies in Curriculum," Journal of Curriculum Theorizing, 1(Winter, 1979), 65-79.

Wise, Robert I., "The Use of Objectives in Curriculum Planning: A Critique of Planning by Objectives," Curriculum Theory Network, 5(No. 9, 1976), 280-289.

Wood, Patricia, "Action Research: A Field Perspective," Journal of Education for Teaching, 14(No. 2, 1988), 135-150.

Yinger, Robert J., "Learning the Language of Practice," Curriculum Inquiry, 17(Fall, 1987), 293-318.

Ziman, John M., Public Knowledge (New York: Cambridge University Press, 1968).